

The second depression followed in about the same track. On the 21st it was central to the southward of Japan, and was causing a strong ENE. gale along the coast in the vicinity of Yokohama.

The British S. S. *Robert Dollar*, Capt. M. Ridley, Seattle, for Kobe, experienced this gale on the 21st when off Oshima. Observer M. M. Blackadder has furnished the following report:

Gale began on the 21st, wind ENE.; lowest barometer 29.55 inches at 2 p. m. same date, in latitude 33° 40' N., longitude 136° 30' E.; end of gale on 22d, wind NE. by E.; highest force, 9, ENE.

By the 29th the depression had moved to the western part of the Gulf of Alaska and a moderate to fresh gale was blowing on its southern edge. The Japanese S. S. *Mandasan Maru*, Capt. R. Watanabe, Yokohama for San Francisco, had this gale on the 29th and 30th. Following is the report from this vessel:

Gale began on the 28th, wind W. by S.; lowest barometer 29.51 inches at 8 a. m., same date, in latitude 47° 46' N., longitude 164° 15' W.; end of gale on 30th, wind W.; highest force, 8 W.; shifts, 2 points.

From the 20th until the end of the month pressure continued low near the Aleutians and a series of weak depressions moved thence over Alaska and the British Northwest Territories.

A waterspout was observed from the British S. S. *Eastern Prince* on June 29. This vessel, under command of Capt. E. Naylor, was proceeding southward along the west coast of Central America at the time. Second Officer and Observer T. R. Jones states that between 8:30 a. m. and 9 a. m. (A. T. S.), when in approximately latitude 8° 38' N., longitude 88° 58' W., a waterspout formed at a distance of some 8 to 10 miles from the vessel, in a WNW. direction. It traveled in a westerly direction. The sky was overcast at the time and a heavy rain falling; lightning and thunder occurred later; the wind force was between 1 and 2, Beaufort.

Fog was reported on numerous occasions during the month.

WEATHER LOG OF AMERICAN BARK "MOSHULA."

Among the vessel weather reports received recently by the Weather Bureau was one strongly suggestive of the days before steam power had so largely supplanted sail on the oceans. This report was from Capt. F. O. Parker, of the American four-masted bark *Moshula*, United States Shipping Board, and covered a voyage from Newcastle (Australia) via Manila to San Francisco. The *Moshula* sailed from Newcastle, with a cargo of 5,050 tons of coal, on November 12, 1920, and arrived at Manila January 10, 1921, being 57 days at sea and covering a distance of some 7,306 miles. Sailing from Manila on May 3, she arrived at San Francisco on July 4, 63 days. Distance sailed, approximately 7,681 miles.

In addition to the valuable meteorological data contained in the report, numerous entries under the head of "Remarks" lend an intimate touch not usually found in reports of the present day. The following notes are taken at random from this part of Capt. Parker's report:

December 8: 7 a. m., heavy cloudburst, filled all tanks. This was in latitude 1° 51' S., longitude 163° 10' E.

December 16: 5° 02' N., 160° 51' E. Heavy squalls (ESE.); main royal blown away.

December 24: 17° 11' N., 143° 08' E. Heavy swell from SW. Hard squalls; lower top gallant, flying jib and mizzen upper topsail blown away.

January 7: Noon, Corregedor bearing E.-N., 15 miles. Making four-hour tacks; beat 20 miles dead to windward in 24 hours; has 5,000 tons of coal on board and has been one year out of dock.

May 3: Manila Bay, 6 p. m. Set sail, hove up anchor and proceeded down the Bay. Midnight, Corregedor Light abeam; North Channel, fine clear weather.

June 2: 37° 03' N., 155° 44' E. Heavy gale from E. to NE.; blew away fore lower topsail, mizzen upper topsail and jib; wind shifted from ESE. to NE. in gale.

July 5: Off Farallones; tug *Sea Wolf* took us in tow and anchored off Meig's Wharf at 5:30 p. m.

The *Moshula* "crossed the line" on December 9, in longitude 163° 26' E. During the eight days preceding the average run was 50 miles and for the eight days following, 65 miles. The daily average for the entire voyage was about 125 miles. The best day's run was on June 23-24, when on an E. course in a moderate SW. gale the *Moshula* logged 251 miles.

WEATHER OF THE NORTH INDIAN OCEAN.

Capt. Charles Olson of the American S. S. *Easterling* has submitted the following note regarding the weather experienced in the Indian Ocean during the period May 17 to June 1, 1921:

We passed Ujung Tapa Gaga Light 8:40 p. m. on the 17th. Sea and breeze moderate. The breeze freshened with a rough sea on the 20th and we experienced an ENE. set of $\frac{1}{2}$ knot for the preceding day; squalls and heavy clouds all the way. Moderate seas and westerly winds on the south and west of Ceylon.

Arrived at Colombo on the afternoon of the 22d and sailed in the evening of the 23d.

From Colombo to Minikoi the sea and winds were moderate. We experienced a very heavy rainstorm 30 miles SE. of Minikoi.

The course was then set for Ras Hafin (on the 25th), winds westerly, sea moderate, and the weather fine with occasional squalls to latitude 9° 50' N., longitude 60° 00' E., where the SW. wind with a force of 4 to 6 had caused a rough sea. At noon of the 29th in this position changed the course to go north of Sokotra. The set for the preceding day was NW., 0.8 knot. The SW. monsoon was blowing strong then and continued so with overcast sky and high seas until we passed 40 miles north of Sokotra on the night of May 31 and June 1.

After passing Sokotra the SW. monsoon came in again, blowing with moderate force and a moderate sea which gradually decreased as we neared the Red Sea.

GALE OFF CAPE OF GOOD HOPE.

The American S. S. *Hampton Roads*, Capt. S. W. Pine, Durban for Key West, experienced heavy weather June 15-17, when rounding Cape of Good Hope. Second Officer and Observer E. Walker has submitted the following report:

Gale began on the 15th, the wind backing through N. to NW. reaching force 8 in squalls. Position of ship at noon (G. M. T.), latitude 34° 42' S., longitude 24° 21' E. At noon on the 16th the wind shifted to W. force 10, and at 4 p. m. increased to force 11. This was the height of the gale and the lowest barometer, 29.60 inches, occurred at this time. There were heavy passing squalls with rain and hail and lightning all around the horizon. Sea rough and choppy. On the 17th the wind shifted to NW., decreasing to force 9, with a rising barometer. At 8 a. m. of the 18th the wind was NW., 5, with a moderate sea; barometer 30.11 inches; position, 34° 30' S., 16° 20' E.